

APPLICATION FOR UNITED STATES LETTERS PATENT

**MULTIFUNCTION HYDRATION CONTAINER
ACCESSORY**

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FIELD OF INVENTION

This invention relates to a multifunction hydration container accessory and more particularly concerns a plurality of modules for attaching to hydration containers conventionally used in sports and activities such as bicycling, hiking
5 and running, wherein the modules are configured for holding accessories such as direction indicators, altimeters, barometers, tools, food and the like while not impeding normal use of the hydration container.

BACKGROUND OF THE INVENTION

10 It is often times desirable to carry food, water and equipment while participating in outdoor activities such as running, biking and hiking. It is well known that consolidating and storing such items into convenient carrying cases is desirable. Some examples include bicycles, which are often equipped with racks and mounts to hold hydration containers and saddle bags, hikers often carry
15 backpacks, and runners may carry a hand-held hydration bottle or use a hip pack, to name a few. It is also well known that water and hydration fluids are among the most desirable items to have readily accessible during recreation activities, wherein a hydration container is often configured for easy access and minimal impedance to the recreation activity, particularly during competition.
20 Other desirable items considered useful include a compass, signal reflective material, cell phone, map or food items, where they are thought to be less desirable to have immediately accessible than hydrating fluids and are stowed in a carrying case. These carrying cases or cargo device are equipped with

numerous zippers, straps and clips for opening and closing pockets and pouches, and when an item is desired for use, the user must access the carrying case by removing it from their back, waist or bicycle and search through the pack to locate the desired object. If the precise location of the desired item is not

5 immediately known, the user must open numerous pockets and pouches until the item is located, causing delays and lending the user susceptible to inadvertently leaving one or more of the zippers, straps or clips open and unknowingly lose valuable contents within the carrying cases or carrying packs.

It is well know that endurance athletes today participate in several sporting

10 categories in a single event. Specifically, an endurance event can include hiking, running, biking, kayaking and mountaineering over hundreds of miles over several days. Athletes are tested on their ability to race across great distances and difficult terrains, and their ability to negotiate a wilderness course using maps and compasses. In endurance events, efficiency is of paramount importance to

15 placing a competitive finishing time, thus having desired items readily accessible for when they are needed is an important element for endurance athletes during training and competition. Specifically, it is desirable to have sporting accessories readily available for use, without having to remove and open packs and carrying cases to access desired objects.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1a and Fig. 1b Depict typical hydration containers.

Fig. 2a and Fig. 2b Depict a bicycle hydration container accessory.

Fig. 3a and Fig. 3b Depict a hiking hydration container accessory.

Fig. 4 Depicts a bicycle hydration container accessory system.

Fig. 5 Depicts a hiking hydration container accessory system.

Fig. 6a and Fig. 6b Depict an alternative embodiment of a multifunction

5 hydration container accessory system having strap on attachment means.

Fig. 7 Depicts an alternative embodiment of a multifunction hydration container accessory system having a mounted auxiliary container and a screw-on cap having a direction indicator accessory and a safety reflector reflective material accessory.

10 **Fig. 8** Depicts an alternative embodiment of a multifunction hydration container accessory system having a molded auxiliary container and a screw-on cap having a direction indicator accessory and a safety reflector reflective material accessory.

Fig. 9 Depicts an alternative embodiment of a multifunction hydration container
15 accessory system having a mounted base, a screw-on auxiliary storage container module and a screw-on cap having a direction indicator accessory and a safety reflector reflective material accessory.

Fig. 10 Depicts an alternative embodiment of a multifunction hydration container accessory system having a hinged auxiliary storage container module accessory
20 and a direction indicator accessory and a safety reflector reflective material accessory.

Fig. 11a and Fig. 11b depicts an alternative embodiment of a multifunction hydration container accessory system having a oversized hydration container

with a mounting cage depression for inserting into a mounting cage typically used with bicycles.

Fig. 12a and Fig. 12b Depict a comparison of a typical bicycle hydration container inserted into a hydration container mounting cage and an oversized multifunction molded-canister bicycle hydration system 128 inserted into a hydration container mounting cage.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENT

As shown in the drawings for purpose illustration, the present invention is concerned with hydration container accessory devices. Fig. 1 depicts some typical hydration containers, where Fig. 1a depicts a hydration container typically used during athletic activities, such as bicycling and running, and Fig. 1b depicts a hydration container used during athletic activities such as hiking, camping and backpacking. For the purpose of discussion, the hydration container depicted in Fig. 1a shall be referred to as a bicycle hydration container 10, and the hydration container depicted in Fig. 1b shall be referred to as a hiking hydration container 22, where it is understood that other hydration containers having various shapes such as polygons and custom molded shapes could be used without departing from the spirit of the invention. Referring now to the bicycle hydration container 10 depicted in Fig. 1a, where the container is of generally cylindrical shape having a bicycle container bottom surface 12 with bicycle container bottom edges 14, bicycle a container body 16 for holding liquids, a bicycle container neck 18 for frictionally fitting into a bicycle hydration container cage (see Fig.'s 12a and 12b)

and bicycle container top 20 for filling and dispensing liquids. Fig. 1b depicts a hiking hydration container 22 having a hiking container bottom surface 24 with hiking container bottom edges 26, a hiking container body 28 for holding liquids, a hiking container top 30 for filling and dispensing liquids.

5 Figs. 2a, 2b, depict perspective views of a multifunction hydration container accessory 32, suitable for attaching to the bicycle hydration container depicted in Fig. 1a, where Fig. 2a shows the front side of the bicycle multifunction hydration container accessory 32. In Fig. 2a, the bicycle multifunction hydration container accessory is depicted having an accessory housing 34, an accessory
10 housing front 36 for fixedly mounting a compass 38 and safety signal reflective material 40 thereto, where it is understood that other useful items may be integrated to the housing front 36 such as a clock, global positioning system, altimeter, barometer, cell phone or safety noise-making device among others without departing from the spirit of the invention. Fig 2b depicts the backside of
15 the bicycle hydration container accessory 32 where the bicycle accessory housing 34 includes an inside bicycle accessory housing wall 42 and a bicycle accessory mounting surface 46, where the backside of the bicycle hydration container accessory 32 is contoured to receive the bicycle hydration container bottom surface 12, bicycle hydration container edges 14 and lower portion of the
20 bicycle hydration container body 16, for fixedly mounting using thereto suitable bonding agents.

 Figs. 3a and 3b, depict perspective views of a multifunction hiking hydration container accessory 48, suitable for attaching to the hiking hydration

container depicted in Fig. 1b, where Fig. 3a shows the front side of the multifunction hiking hydration container accessory 48. In Fig. 3a, the multifunction hiking hydration container accessory is depicted having a hiking accessory housing 50, a hiking accessory housing front 52 for fixedly mounting a compass 38 and safety signal reflective material 40 thereto, where it is understood that other useful items may be integrated to the hiking housing front 52 such as a clock, global positioning system, altimeter, barometer, cell phone or safety noise-making device among others without departing from the spirit of the invention. Fig 3b depicts the backside of the hiking hydration container accessory 48 where the hiking accessory housing 50 includes an hiking accessory inside housing wall 54 and a mounting surface 56, where the backside of the hiking hydration container accessory 48 is contoured to receive the hiking hydration container bottom surface 24, hiking hydration container edges 26 and lower portion of the hiking hydration container body 28, for fixedly mounting thereto using suitable bonding agents.

Fig. 4 depicts a bicycle multifunction hydration container accessory system 58 comprising a bicycle hydration container 10 fixedly attached to a hydration container accessory 32, where the bicycle hydration container bottom surface 12 and lower portion of bicycle container body 16 of Fig. 1a are fixedly attached to bicycle hydration accessory mounting surface 46 and inside housing wall 42 of Fig. 2b using a suitable bonding means such as adhesives, plastic welding, hook and pile, or frictional and strapping means.

Fig. 5 depicts a hiking multifunction hydration container accessory system 60 comprising a hiking hydration container 22 fixedly attached to a hiking hydration container accessory 48, where the hiking hydration container bottom surface 24, hiking hydration container edge 26 and lower portion of hiking container body 28 of Fig. 1b are fixedly attached to hiking hydration accessory mounting surface 56 and inside housing wall 54 of Fig. 3b using a suitable bonding means such as adhesives, plastic welding, hook and pile, or frictional and strapping means.

Fig. 6a and 6b depict an alternative embodiment of the current invention, where shown in Fig. 6a is a strap on hydration container accessory 62 having elastic securing straps 64 for securing the hydration container accessory 62 to a hydration container. As depicted, Fig 6a shows the strap on hydration accessory 62 having a strap on front surface 66 for fixedly attaching a compass 38 and a safety signal reflective material 40, where it is understood that other accessories may be included without departing from the spirit of the invention. Fig, 6b depicts a strap on hydration container accessory system 68 were depicted is the strap on hydration accessory 62 attached to a bicycle hydration container 10, where it is understood that the strap on hydration accessory 62 could be configured for a variety of hydration container shapes and sizes without departing from the spirit of the invention.

Fig. 7 depicts a partially exploded perspective view of an alternative embodiment of the invention, where shown is a multifunction canister storage hydration container accessory system 70 having a canister accessory 72 fixedly

mounted to hydration container 10, where canister accessory 72 has a canister housing 74 with a mounting surface (not shown) as described with Figs. 2a and 2b. Additionally, canister accessory 72 comprises canister walls 76 to create a canister cavity 78 for conveniently holding desired objects, and further comprises

5 a canister cap 80 having a canister cap housing 82, a canister cap front surface 84 for fixedly mounting utility items such as a compass 38 and a safety signal reflective material 40. The canister walls 76 have canister female threads 86 for receiving canister cap male threads 88 to seal the canister cavity 78, where the depicted canister cap 80 is removed from the canister cavity 78 and canister

10 female threads 86 for illustrative purposes. Here, male-female thread attachment is understood to include peg and groove assembly, post and slot configurations or the like without departing from the spirit of the invention. Further, it is obvious the canister cap front surface 84 could incorporate other accessories beyond the compass 38 such as a lighting source, a safety road reflector or a strobe beacon,

15 to name a few without detracting from the spirit of the invention.

Fig. 8 depicts a partially exploded perspective view of an alternative embodiment of the invention, where illustrated is a multifunction molded-canister hydration container accessory system 90 having a molded-canister accessory 92 integrated with a hydration container as a single unit, and having a molded-

20 canister cavity 94 encapsulated by molded-canister walls 96 and a canister cap 80 as depicted in Fig. 7, wherein canister cap 80 has canister cap male threads 86 for inserting to molded-canister female threads 98 within molded-canister walls 96 for sealing molded-canister cavity 94, using means discussed with Fig 7.

Canister cap 80 is depicted having a canister cap housing 82, a canister cap front surface 84 for fixedly mounting a compass 38 and a safety signal reflective material 40. The molded-canister walls 96 have molded-canister female threads 98 for receiving canister cap male threads 88 to seal the molded-canister cavity 78, where the canister cap 80 is depicted as removed from the molded-canister cavity 94 and molded-canister female threads 98 for illustrative purposes.

Fig. 9 depicts a partially exploded perspective view of an alternative embodiment of the invention, where shown is a multifunction modular storage hydration container accessory system 100 comprising a modular canister accessory 102 for fixedly attaching to a bicycle hydration container 10, where it is obvious the modular canister accessory 102 can be adapted to other hydration containers without departing from the spirit of the invention. The modular storage hydration container accessory system 102 enables variable storage capacity through stackable modules. The modular canister accessory 102 comprises a base housing 104 fixedly mounted to bicycle hydration container 10 using attaching means such as described in Fig.'s 4 and 5, a storage module 106 having a first end with male attachment threads 108 and a second end with female attachment threads 110, and canister cap 80 for sealing the storage module 106. Further depicted is base housing 104 having base housing female threads 112 for receiving storage module male threads 108 should the user desire cargo space, or for receiving canister cap male threads 88, as described with Fig. 7, when no storage is desired. It is obvious that a plurality of storage modules 106 can be stacked and combined for variable storage space.

Fig. 10 depicts a perspective view of an alternative embodiment of the invention where shown is a multifunction compartment storage hydration container accessory system 114 having a compartment storage container accessory 116 fixedly attached to hydration container 10. Compartment storage container accessory 116 comprises compartment housing 118, compartment cavity 120, compartment door 122 pivotably attached to compartment housing 118 using compartment door hinge 124 to close about compartment cavity 120, where compartment door 122 has a latching means such as compartment door hook 126, attached to compartment door 122 for engaging compartment cavity latch 128 to operatively secure the compartment door 122 closed about the compartment cavity 120. The compartment storage container accessory 116 further comprising compass 38 and safety signal reflective material 40 fixedly attached to housing front surface 130.

Fig.'s 11a an 11b depict an alternative embodiment of the invention, where an oversized multifunction molded-canister bicycle hydration accessory system 132 is depicted, comprising an oversized bicycle hydration container 134 having a molded storage compartment 136 and a canister cap 80. Fig. 11a is a partially exploded view of the multifunction molded-canister bicycle hydration system 132, where depicted is the canister cap 80 removed from the oversized bicycle hydration container 134 to reveal the oversized canister cavity 136 and molded canister female threads 138 near the open end of molded canister walls 140 for receiving canister cap male threads 88 to seal the oversized canister cavity 136, where the canister cap 80 is depicted as removed from the canister

cavity 136 and canister female threads 138 for illustrative purposes. Further depicted is multifunction molded-canister bicycle hydration system 132 having a mounting cage depression 142 for receiving a bicycle mounting cage (depicted in Fig.'s 12a and 12b) commonly found attached to bicycle frames (not shown).

- 5 Fig. 11b depicts an assembled multifunction molded-canister bicycle hydration system 132.

Referring now to Fig. 12a and 12b, where Fig. 12a depicts perspective view of a hydration container comparison 144 between a typical bicycle hydration container 10 inserted into a hydration container mounting cage 146, typically
10 mounted to a bicycle frame (not shown), for holding the bicycle hydration container 10, and between an oversized multifunction molded-canister bicycle hydration system 132 inserted into a hydration container mounting cage 146, typically mounted to a bicycle frame (not shown), for holding the oversized multifunction molded-canister bicycle hydration system 144. Fig. 12b depicts a
15 side view of the comparison between a typical bicycle hydration container 10 inserted into a hydration container mounting cage 146, typically mounted to a bicycle frame (not shown), for holding the bicycle hydration container 10, and between an oversized multifunction molded-canister bicycle hydration system 132 inserted into a hydration container mounting cage 146, typically mounted to
20 a bicycle frame (not shown). Further depicted in Fig.'s 12a and 12b is the oversized multifunction molded-canister bicycle hydration system 132 having a mounting cage depression 142 with bicycle mounting cage 146 cradling the multifunction oversized molded-canister bicycle hydration system 132, where a

typical bicycle hydration container 10 cradled by a hydration container mounting cage 146 for attaching to a bicycle frame (not shown) is presented for comparison purposes.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that, within the scope to the appended claims, the invention may be practiced otherwise than as specifically described.

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